

Amendment to the Specification

The Paragraph beginning at Page 3, lines 15-32, through to Page 4, lines 1-5, is to be amended as follows:

Notwithstanding any other forms which may fall within the scope of the present invention, preferred forms of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Fig. 1 illustrates a single authentication chip data protocol;

Fig. 2 illustrates a dual authentication chip data protocol;

Fig. 3 illustrates a first presence only protocol;

Fig. 4 illustrates a second presence only protocol;

Fig. 5 illustrates a third data protocol;

Fig. 6 illustrates a fourth data protocol;

Fig. 7 is a schematic block diagram of a maximal period LFSR;

Fig. 8 is a schematic block diagram of a clock limiting filter;

Fig. 9 is a schematic block diagram of the tamper detection lines;

Fig. 10 illustrates an oversized nMOS transistor used as test transistors in the tamper detection line of Fig. 9;

Fig. 11 is a circuit diagram of part of the tamper detection line of Fig. 9 including XOR gates between the two paths;

Fig. 12 illustrates how the Tamper Lines cover the noise generator circuitry;

Fig. 13 is a circuit diagram of the normal FET implementation of a CMOS inverter;

Fig. 14 is voltage/current diagram for the transistors of the CMOS inverter of Fig. 13;

Fig. 15 is a circuit diagram of the FET implementation of a non-flashing CMOS inverter;

Fig. 16 is impedance diagram for the transistors of the CMOS inverter of Fig. 15.

Fig. 17 is a schematic diagram of a printer consumable, having an untrusted authentication chip, engaged with a printer having an untrusted authentication chip.

The Paragraph beginning at Page 4, lines 22-27, is to be amended as follows:

To solve the authentication problem, the Authentication chip contains an authentication code and circuit specially designed to prevent copying. The chip is manufactured using the standard Flash memory manufacturing process, and is low cost enough to be included in consumables such as ink and toner cartridges. Figure 17 shows a printer consumable 1000 (e.g. ink cartridge), having an untrusted authentication chip 1001, engaged with a printer

1002 having a trusted authentication chip 1003. Once programmed, the Authentication chips as described here are compliant with the NSA export guidelines. Authentication is an extremely large and constantly growing field. Here we are concerned with authenticating consumables only.